

**REMARKS**

Claims 1-3 are pending in the application

Claims 1-3 were rejected

**I. 35 USC §103 Claim Rejections**

Claims 1-3 were rejected under 35 USC §103(a) as being unpatentable over Lei *et al.* ("Reduced Complexity Maximum Likelihood Detection For V-BLAST Systems," IEEE Military Communications Conference, 2003 MILCOM, Vol. 2, pp. 1386-1391, Oct. 2003) in view of Garrett (U.S. Pub. No. 2004/0042565) and further in view of Chan *et al.* ("A Simple Taboo-Based Soft Decision Decoding Algorithm For Expander Codes," IEEE Communications Letters, Vol. 2, No. 7, pp. 183-185, July 1998). Applicant herein traverses this rejection basis and respectfully requests reconsideration thereof.

As to the primary reference, Lei, the Office Action substantially acknowledges that Lei teaches no more than the basic idea of using a spherical decoder to implement reduced complexity maximum likelihood detection for signals transmitted in a multiple antenna transmission environment, a teaching Applicant also acknowledged as being known in the art in his specification. Moreover, as specifically acknowledged in the Office Action, Lei fails to teach either the features of Applicant's invention of (1) computation of log-likelihood ratios for bit positions determined from the spherical decoding or (2) the use of a cost function based on candidate vectors constructed by flipping one or more bits of the most likely candidate vector, both of which features are included as limitations in the present claims.

The Office Action cites the Garrett reference as teaching the limitation of computing a log-likelihood ratio for the bit positions of a received candidate vector determined in the spherical decoding step. The Applicant noted in his response to the prior office action that the cited Garrett reference was his own work and has here amended his specification to claim priority from that application as a continuation in part thereof. That prior filed application of inventor Garrett was co-pending on the filing date of this application. The subject matter disclosed in that prior application is directly related to the subject matter of the present invention. Inventor Garrett is the sole inventor in both applications. Accordingly all claims are directed to his invention.

With this amendment of his specification to claim priority from the cited Garrett reference, the Applicant submits that such reference has been removed as prior art to his invention here. In similar manner, since that Garrett reference had been applied

under the §103 rejection to teach a critical limitation of Applicant's claims, it is further submitted that the §103 rejection must fail with the removal of the cited reference as prior art. Withdrawal of that rejection is respectfully requested.

While it is Applicant's position that the present rejection of his claims must fail independent of the merit or lack thereof in the citation of Chan *et al* as teaching the limitation of Applicant's claims directed to the feature of using a cost function based on candidate vectors constructed by flipping one or more bits of the most likely candidate vector, he nonetheless notes his strong disagreement that the substantially unrelated bit-flipping used by Chan could reasonably be construed as teaching that feature. Moreover, it is respectfully submitted that, even if such a construction of Chan were merited, there has been no showing of a motivation to combine Chan with the other cited references in the manner of the invention here. Thus, the rejection here becomes a classic "hindsight" rejection -- *using the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention* – an approach consistently rejected by the courts. See *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998):

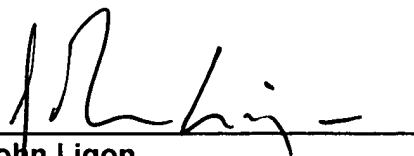
The Applicant accordingly submits that the §103 rejection of the present office action cannot stand. Withdrawal of that rejection is respectfully requested.

**II. Conclusion**

in view of the foregoing, allowance of all the claims presently in the application is respectfully requested, as is passage to issuance of the application. If the Examiner should feel that the application is not yet in a condition for allowance and that a telephone interview would be useful, he is invited to contact Applicants' undersigned attorney at (973) 386-4237.

Respectfully submitted,

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